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                     Length-Biased and Current Duration Sampling.

In the analysis of longitudinal data, two semiparametric models that are often used are the Cox proportional hazards model and the accelerated failure time model. In Cox proportional hazards model for failure time, one assumes that the covariate effect is captured via a proportional constant between hazard functions, with unspecified underlying hazard functions. In accelerated hazards model, the hazards functions are related via the scale: time change, which is a function of covariates and the associated parameters. In a medical setting, current duration sampling require knowledge of the duration of the disease of a group of patients up to the present, but length-biased sampling requires time needed to observe the full duration of the disease of the sampled patients. In this talk, some results on current duration and length-biased sampling for the accelerated failure time model and Cox proportional hazards model are presented. Approximations via Cox proportional hazards and length-biased exponential distributions to the class of distribution functions with monotone hazard functions are presented. (Received September 11, 2007)